

Remarks

The Applicant notes with appreciation the Examiner's withdrawal of the 35 U.S.C. §102(b) rejection of Claims 1, 3 and 5. Applicant further notes with appreciation the withdrawal of the 35 U.S.C. §103(a) rejection of Claims 1-7.

In response to the Examiner's objection to the figures, the Applicant submits herewith newly revised Figs. 1 and 2. Figs. 3 and 4 are being revised and will be submitted as soon as they are available.

In compliance with the Examiner's request concerning the Specification filed September 18, 2002 as being objected to for containing new matter under 35 U.S.C. §132, the Applicant has amended the Specification in accordance with the Examiner's helpful suggestion. Applicant respectfully submits that the amended introduction to Paragraph 8.1 is now fully supported by page 1 of the original application. Further, the Applicant respectfully submits that the amended last sentence of Paragraph 0014 is fully supported by page 1 of the original application.

The Applicant, however, submits herewith an amended Specification which has incorporated portions of text taken from references which were incorporated by reference in the original Specification. Specifically, the Applicant has added, verbatim, text from Daniel, H., C. Guda, X. Zhang, D. McPherson, D. W. Urry 1997, "Hyperexpression of a Synthetic Protein-Based Polymer Gene", Methods in Molecular Biology, 63:359-371; and Urry et al, "Protein-Based Polymeric Materials (Synthesis and Properties), Polymeric Materials Encyclopedia, vol. 9 (1996). Applicant respectfully submit that the addition of this verbatim text is not new matter.

The Examiner's attention is kindly invited to the following passage from 2163.07(b) **of the MPEP** (incorporation by reference):

Instead of repeating some information contained in another document, an application may attempt to incorporate the content of another document or part thereof by reference to the document in the text of the Specification. The information incorporated is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed. Replacing the identified material incorporated by reference with the actual text is not new matter. See MPEP (608.01(p)).

Applicant respectfully submits that both Daniel et al. and Zhang et al., which were cited in the original application, were clearly incorporated by reference. Specifically, page 1 of the original filed application indicates that “all references cited herein are incorporated by reference.”

Applicant notes with appreciation the Examiner’s withdrawal of objection to Claims 2, 4 and 7 in light of the Applicant’s prior response. Applicant further notes with appreciation the Examiner’s withdrawal of the rejection of Claims 1-7 under 35 U.S.C. § 112, second paragraph.

The Applicant notes with appreciation the Examiner’s helpful comments concerning Claim 10, and as a result Applicant has canceled Claim 10, without disclaimer of the subject matter claimed therein.

Applicant respectfully invites the Examiner’s attention to page 7271 left-hand column of the article entitled, “Protein-Based Polymeric Materials” by Urry et al., which was enclosed with the previous response, wherein the coding sequence for GVGVP is clearly delineated. This passage, which was incorporated by reference, has been added to the Applicant’s Specification to clearly illustrate the nucleotide sequence encoding GVGVP.

Response to §112 Rejection

Claims 1, 3, 5 and 8-10 have been rejected under 35 U.S.C. §112. Applicant respectfully submits that, in view of the amendments above, the deposit of plasmids is not necessary. Applicant further submits that as a result of incorporating this material directly into the Specification, support

for the sequence is no longer cryptic and the sequence is now clearly disclosed within the Specification. In accordance with the Examiner's helpful suggestions, the Applicant has amended Claims 1, 3-5 and 8-10 to remove any indefiniteness within Claims 1 and 3 by inserting the term "synthetic" and clarifying that the coding sequence is part of the expression cassette. In view of the material clearly illustrated in the Specification, the Applicant respectfully submits that the deposit of plasmid is not necessary.

Applicant respectfully submits that the Applicant no longer claims fiber cells which have been transformed with a DNA encoding an elastic and plastic polymer. Consequently, any rejection relating to the use of elastic and plastic is now obviated.

Applicant respectfully submits that the case of Fiddes v. Baird, USPQ2d 1481 (Bd Pat App & Int) 30 is factually dissimilar to this invention. The claims of Fiddes v. Baird, (hereinafter "Fiddes Claims") were submitted to the United States Patent and Trademark Office in 1985. The case was decided on the basis that the patent in question taught an amino acid sequence for bovine pituitary FGF and theoretical DNA sequences encoding that factor without describing any naturally occurring genes encoding those sequences. The court noted, "because at the time the application was filed, knowledge of amino acid sequence of protein, coupled with established relationship in the genetic code between nucleic acid and the protein it encodes did not establish inventor's possession of the gene encoding that protein." Applicant respectfully submits that the art has far advanced since the filing date for the Fiddes claims. Specifically, 13 years have passed between the Fiddes claims and the Applicant's claims. During that time, the art has advanced by leaps and bounds.

Another significant difference between the Fiddes claims and the Applicant's claims is that the Applicant's amino acid sequence is a simple pentapeptide repeat of GVGVP, whereas there is a complex amino acid described in Fiddes. Furthermore, Applicant does not claim a broad class of

mammalian GVGVP, but rather claims a GVGVP that is synthetic. Specifically, Fiddes claims were drawn to “recombinant DNA molecule consisting essentially of a DNA sequence encoding mammalian basic fiber glass growth factor.” Fiddes, at 1481. Applicant’s further submit, that at the time the application was filed, GVGVP had been categorized by the inventor in a multitude of different systems including bacteria, fungicide and plants, and be expressed as both a small polypeptide of 20 repeats and a large polypeptide of 251 repeats. (pg. 2 of Applicant’s provisional application). Applicant further invites the Examiner’s attention to page 1 of the Applicant’s provisional application, wherein the abstract states that the synthetic sequence for GVGVP was derived from human elastin, which had been well characterized at the time the application was filed. The Examiner is further invited to consider page 3 of the provisional application, wherein the pentapeptide sequence VPGVG, which serves as the base for the creation of the synthetic GVGVP sequence, had been characterized and well described in the art.

Claims 1, 3, 5 and 8 have been rejected under 35 U.S.C. §112 for containing subject matter that was not described in the Specification in such a way so as to illustrate the Applicant was in possession of the claimed invention. Specifically, the Examiner has requested support for the phrase a gene encoding an amino acid sequence including at least one pentapeptide that is repeated at least once which genes do not occur in nature. Applicant respectfully submits that support for the aforementioned phrase is found in a multitude of locations within the Application, including but not limited to, Claims 4 and 6 of the originally filed application. This disclosure, along with the well understood definition of pentapeptide (a compound containing five amino acids residues linked to the peptide bonds), fully supports amended Claim 1 and 3. (See Lehninger Principles of Biochemistry, Third Edition, Nelson and Cox, Worth Publishers, 1982, 1993, 2000, pg. 126.) The Examiner’s attention is further invited to page 2 of the Applicant’s provisional application wherein

support is found for 20 to 251 repeats of GVGVP. This passage provides direct support for the use of 20 to 251 repeaters of GVGVP.

In light of the foregoing, Applicant's respectfully submit that the application is now in condition for allowance which action is respectfully requested.

Respectfully submitted,



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